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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,164	03/31/2004	Min Zuo	121036-067	8207

35684 7590 11/20/2007

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EXAMINER	
TRAN, THAO T	

ART UNIT	PAPER NUMBER
1794	

NOTIFICATION DATE	DELIVERY MODE
11/20/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/815,164	ZUO ET AL.	
	Examiner	Art Unit	
	Thao T. Tran	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6-10,15 and 17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6-10,15 and 17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is in response to the Amendment filed on 8/30/2007.

2. Claims 1-3, 6-10, 15, and 17 are currently pending in this application. Claims 1, 7, and 17 have been amended.

3. In view of the prior Office action, the prior art rejection of the claims are maintained as set forth below.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin et al. (US Pat. 6,489,436). This is used as the equivalent of Nippon Metron, Ltd. (WO 01/29136).

Lin discloses a metal laminate for used in a flexible wiring board, the lamiante comprising a polyimide copolymer laminated with metallic foil. The polyimide copolymer is a product of (1) a copolymer of (A) isopropylidene-bis-4-phenyleneoxy-4-phthalic acid) dianhydride and (B) 3,3',4,4'-benxophenonetetracarboxylic acid dianhydride, and (2) (C) 6-amino-2-(p-aminophenyl)-benzimidazole (see abstract).

Component (B) is used not more than 90% (see col. 2, ln. 14-16), giving the amount of (A) to be at least 10%, which read on the instantly claimed ranges.

Lin further teaches the laminate to be without curling and the polyimide layer is a single layer (see Example 1; col. 5, ln. 1-9). With respect to the laminate being subjected to an etching process to obtain curling resistance, it has been within the skill in the art that process limitations would have no patentable weight in an article claim so long as the article is free of curling.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 7-10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin as applied in claims 1-3 and 6 above and further in view of Chen et al. (US Pat. 5,290,909).

Lin is as set forth in claims 1-3 and 6 above and incorporated herein.

Lin does not teach the use of a mixture of diamines.

Chen discloses polyimide film compositions applied to metallic foil substrates comprising the reaction product of the applicant's claimed components (B), (C), (D1), and (D2) (abstract; example 1). Examples show the applicant's claimed ratios of (C) to (D1) or (D2) (examples 1-2).

Therefore, it would have been obvious to one of ordinary skill in the art to have employed at least (D1) or (D2) in combination with (C) as the diamine component of Chen in the polyimide of Lin. The reason is that combination of two components of the same purpose has been considered prima facie obvious of providing the same purpose.

8. Claims 1-3, 6, 10, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US Pat. 4,937,133) in view of Lin et al.

Watanabe discloses a printed circuit base, comprising a layer of polyimide and a conductive layer. The polyimide layer is formed by first forming a solution of polyamide in a solvent (DMAC), applying the polyamide solution on copper foil, heating to imidize the polyamic acid (see Examples 1-7). The laminate is then subjected to etching and does not curl, twist, or wrap (see abstract; col. 2, ln. 28-32).

The polyamide solution can be a mixture of various diamines and acid anhydrides. The diamines include applicants' claimed components (D1) and (D2) and the dianhydrides include the presently claimed component (B) (see col. 8, ln. 1-50).

Watanabe, however, does not teach the use of the presently claimed component (A).

Lin teaches copolyimides for metal lamination, where mixtures of dianhydrides are used in the presently claimed ratio. Component (A) is used with a second dianhydride similar to (B) and reacted with (C) to enhance solubility of the resulting polyimide (col. 2 lines 14-21; examples). Thus, it would have been prima facie obvious to combine components (B) and (A) in the applicant's claimed ratios to provide a finished polyimide film with enhanced solubility.

The laminate of Wanatabe comprises at least two layers of polyimide resins, not a single layer. However, making integral of separate parts would not be patentable over the prior art since the combined layer would have the same insulating function.

Response to Arguments

9. Applicant's arguments filed August 30, 2007 have been fully considered but they are not persuasive.

In response to Applicants' arguments that the laminate of Lin does not exhibit curling with respect to mechanical or physiological curling and not related to a chemical etching process, it is noted that since the presently claimed invention is directed to an article, how curling is prevented would have no patentable weight as long as the product is the same. It is emphatically noted that this argument is applied to the article claims only, in this case, to instant claims 1-3, 6-10, and 15. This argument is not applied to claim 17, which is directed to a process.

The same argument is presented with respect to the combination of Lin and Chen.

In response to Applicants' argument that Watanabe differs from the presently claimed invention in that the reference only teaches a multilayer of the polyimide resins, it is noted that making integral of separate parts would not be patentable over the prior art since the combined layer would have the same insulating function. Thus, Wanatabe is obvious over the presently claimed invention.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 9:00 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton I. Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thao T. Tran
Primary Examiner
Art Unit 1794

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